OPINION

by Prof. Daniela Ananieva Orozova, PhD Burgas Free University

about a competition for acquiring the academic position of Associate Professor in the field of higher education: 4. Natural Sciences, Mathematics and Informatics; professional field 4.6. Informatics and Computer Science; scientific specialty "Informatics (Information modelling of service networks)", for the needs of the Information Modelling department of the Institute of Mathematics and Informatics of the Bulgarian Academy of Sciences - Sofia

The opinion is prepared in accordance with order № 190 / 06.10.2020 of the Director of the Institute of Mathematics and Informatics (IMI) of the Bulgarian Academy of Sciences (BAS) and in conformity with the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations for its implementation and the Regulations and specific requirements of BAS and IMI-BAS for the acquiring of scientific degrees and appointment to academic positions.

The competition has been announced in the Bulgarian State Gazette No. 70/07.08.2020. The only candidate who has submitted documents for participation in the competition is **Sen. Assistant Prof. Velin Andonov, PhD**.

1. General description of the presented materials

As a member of the Scientific Jury in the competition, I have received the required administrative and scientific documents of the candidate in electronic form: standardized application form; professional biography; copy of a master's degree diploma; copy of a PhD diploma; list of all publications of the candidate and list of publications for participation in the competition; summary of the original scientific contributions; abstracts of the publications for participation in the competition; list of all known citations of the candidate; list of citations for participation in the competition; copy of Bulgarian State Gazette No. 70/07.08.2020 where the competition is announced; certificate of working experience; information regarding the fulfilment of the minimal National requirements in Art. 2b, Par. 2 and Par. 3, and the requirements in Art. 2b, Par. 5 of the Law on the Development of the Academic Staff in the Republic of Bulgaria; standard declaration.

The documents presented by the candidate for participation in the competition meet the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria and Regulations for the Conditions and Order of Acquiring of Scientific Degrees and Academic Positions of BAS. In addition, I received an explanation letter from the candidate regarding a question to him about some mistakes in Appendix 2.2. This explanation has been taken into account in the present opinion.

2. General information about the candidate

Velin Stoyanov Andonov graduated from the Faculty of Mathematics and Informatics of Sofia University "St. Kliment Ohridski" in 2008 with bachelor's degree in mathematics, specialty Applied Mathematics. In 2010 he completed the master's degree program "Mathematical modelling in economics", specialty "Mathematical finance and actuarial science".

Since 2016, he has been working full-time at the Institute of Mathematics and Informatics of BAS (according to the certificate of working experience issued by IMI-BAS). This shows that the candidate meets the requirements of Art. 24, Par. 2, Sec. 2 of the Law on the Development of the Academic Staff in the Republic of Bulgaria.

The candidate received his PhD degree in Informatics on March 6, 2015, at the Institute of Biophysics and Biomedical Engineering of the Bulgarian Academy of Sciences with dissertation titled "Generalized nets with characteristics of the places".

The scientific interests of the candidate are in the areas: Modelling of telecommunication systems, Generalized nets and Intuitionistic fuzzy sets. Velin Andonov has command (to various degrees) of English, Greek and Russian.

3. Analysis of the scientific and applied scientific achievements of the candidate

Sen. Assistant Prof. Velin Andonov, PhD, has presented a total of 23 scientific publications for participation in the competition for the academic position "Associate Professor".

The analysis of the presented publications shows that:

- **13** are in journals with impact factor or impact rank (№ 2, 4, 5, 6, 8, 9, 10, 12, 14, 15, 16, 17, 21);
- 5 are indexed in Scopus without SJR (1, 13, 18, 19, 20);
- 3 are indexed in IEEE Xplore or Zentralblatt (№ 3, 7, 22);
- all of the presented publications are in English;
- 4 are currently in press (№ 12, 14, 15, 22);
- 22 have more than one author:
- 1 is authored only by the candidate (N_2 5).

The presented publications at the competition can be distributed over time as follows:

| Year | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|--------|------|------|------|------|------|------|------|------|------|
| Number | 1 | - | - | 2 | - | 5 | 2 | 4 | 9 |

Apart from that, the candidate has included a list of all of his publications (50 in total). Of them, 16 have impact factor or impact rank, 5 are indexed in Scopus without SJR and 3 are indexed in IEEE Xplore or Zentralblatt.

Among the publications for participation in competition 7 publications are presented as a cumulative habilitation thesis.

The main scientific results of Sen. Assistant Prof. Velin Stoyanov Andonov, PhD, in the publications for participation in the competition can be grouped in the following three areas:

(1) Generalized Nets (GNs):

- Definition of new extensions of the GNs (№ 8, 11, 16, 17, 24).
- Research on the properties of the new extensions of the class of the standard GNs (№ 5, 10, 13, 35, 50).
- Research related to other problems of the GNs (N_{2} 5, 6, 14, 15, 16).
- (2) Applications of GNs:
 - Development of GN models of processes in telemedicine/telehealth (№ 3, 4, 7, 9, 18, 25).
 - Systems of human body and service systems (№12, 20, 22, 27, 28, 29, 30, 32, 34, 37, 42, 43, 44, 45, 48, 49).
- (3) Modelling of telecommunication networks (№ 23, 28, 31, 33, 38, 39, 40, 41, 45, 46) and others (№1, 2, 21,26, 36).

In the summary of the results of the scientific work of Sen. Assistant Prof. Velin Andonov, PhD, a detailed description is made of the contributions in each publication from the list for participation in the competition.

Undoubtedly, the thematic area of the scientific publications of the candidate is highly topical. The text of the papers is appropriately structured and includes diagrams, figures and examples which vastly improve the clarity of the papers and makes them easier to understand.

4. Impact of the candidate's results on the publications of other researchers

According to the presented materials regarding citations, Sen. Assistant Prof. Velin Andonov has presented **28 citations** for participation in the competition for acquiring the academic position of Associate Professor. Out of them, 21 are citations in publications indexed in Scopus or Web of Science; 6 are citations in Zentralbatt and 1 citation is in IEEE Xplore.

A list of all citations of the candidate (56 in total) spanning over the period from 2008 to 2020 is also presented.

According to the documents submitted, the candidate receives: 50 points in group of indicators A; 124 points in group of indicators B; 236 points in group of indicators Γ ; 147 points in group of indicators Π ; 30 points in group of indicators E. Therefore, the minimal national requirements and the additional requirements in Art. 1a, Par. 2 and Par. 3 of the

Regulations for Implementation of the Law on the Development of the Academic Staff in the Republic of Bulgaria for the acquiring of the academic position Associate Professor in professional field 4.6. Informatics and Computer Science are fulfilled.

5. Critical remarks and recommendations

I have no personal impressions on the work of the candidate. From the submitted documents, I draw a conclusion that he is an established researcher.

I also assume that the contributions of the candidate in the presented publications is equal to the contributions of his co-authors. The participation in publications with more than one author is an indicator of the presence of skills for working in team and of skills for management of teams of researchers. However, I would like to recommend that the candidate, in his future work, publish the results of his research in more papers in which he is the sole author. This would further establish his name in the scientific community.

In expectation of his further development as a researcher, I recommend to the candidate to describe and summarize his results in the area of the modelling of service systems in a monography.

6. CONCLUSION

After acquainting myself with the presented materials and scientific publications for the competition and on the basis of an analysis of their significance and the scientific and applied scientific contributions included in them, I confirm that the scientific contributions meet the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations for the Conditions and Order of Acquiring of Scientific Degrees and Academic Positions of BAS for the appointment of the candidate to the academic position Associate Professor in the scientific area and the professional field of the competition.

I give my **positive evaluation** of the candidature of Velin Stoyanov Andonov. Based on the above said, I recommend to the Scientific Jury to propose to the competent appointment authority of IMI -BAS to appoint Velin Stoyanov Andonov to the academic position "Associate Professor" in professional field 4.6 Informatics and Computer Science (Information modelling of service networks).

| November 9, 2020. | Member of the Scientific Jury: |
|-------------------|--------------------------------|
| Burgas | /Prof. Daniela Orozova, PhD/ |